TORQ Analysis of Industrial Machinery Mechanics to Millwrights

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Industrial Machinery Mechanics	49-9041.00	Abilities:	Importance LeveL: 50	Weight: 1
To Title:	Millwrights	49-9044.00	Skills:	Importance LeveL: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ: 92

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	86	Level	93	Level	97

Gaps To Narrow if Possible

Ability	Level	Gap	Impt
Information Ordering	67	14	84
Visualization	62	11	75
Static Strength	59	9	59
Extent Flexibility	60	9	56
Near Vision	55	5	75
Depth Perception	48	6	62
Oral Expression	50	6	59
Spatial Orientation	35	7	50
Speech Clarity	44	5	65
Dynamic Strength	41	6	50
Auditory Attention	60	5	59
Multilimb Coordination	53	2	68
Selective Attention	51	1	65
Oral Comprehension	51	1	59
Gross Body Equilibrium	35	1	50

Upgrade These Skills

Skill	Level	Gap	Impt
Mathematics	69	13	74
Installation	75	2	81
Troubleshooting	72	2	76

Knowledge to Add

Knowledge	Level	Gap	Impt
No Knowledge Upgrades Required!			

LEVEL and IMPT (IMPORTANCE) refer to the Target Millwrights. GAP refers to level difference between Industrial Machinery Mechanics and Millwrights.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Industrial Machinery Mechanics	Millwrights	Importance
Information Ordering	53	67	84
Manual Dexterity	53	50	78
Visualization	51	62	75
Near Vision	50	55	75
Problem Sensitivity	44	44	68
Deductive Reasoning	46	46	68
Multilimb Coordination	51	53	68
Selective Attention	50	51	65
Arm-Hand Steadiness	48	42	65
Speech Clarity	39	44	65
Control Precision	55	51	62
Depth Perception	42	48	62
Oral Comprehension	50	51	59
Oral Expression	44	50	59
Static Strength	50	59	59
Auditory Attention	55	60	59
Speech Recognition	37	35	59
Finger Dexterity	51	44	56
Extent Flexibility	51	60	56
Trunk Strength	46	44	53
Inductive Reasoning	42	41	50
Perceptual Speed	42	37	50
Spatial Orientation	28	35	50
Reaction Time	59	46	50
Dynamic Strength	35	41	50
Gross Body Equilibrium	34	35	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Industrial Machinery Mechanics	Millwrights	Importance
Equipment Selection	67	66	82
Repairing	74	73	82
Installation	73	75	81

Troubleshooting	70	72	76
Mathematics	56	69	74

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Industrial Machinery Mechanics	Millwrights	Importance
Mechanical	81	80	87

Experience & Education Comparison

Related Work Experience Comparison

Description	Industrial Machinery Mechanics	Millwrights
10+ years	7%	3%
8-10 years	8%	0%
6-8 years	8%	7%
4-6 years	14%	29%
2-4 years	17%	3%
1-2 years	15%	17%
6-12 months	3%	19%
3-6 months	13%	0%
1-3 months	0%	0%
0-1 month	0%	0%
None	11%	7%

Required Education Level Comparison

Description	Industrial Machinery Mechanics	Millwrights
Doctoral	0%	0%
Professional Degree	0%	0%
Post-Masters Cert	0%	0%
Master's Degree	0%	0%
Post-Bachelor Cert	0%	0%
Bachelors	7%	0%
AA or Equiv	1%	0%
Some College	11%	1%
Post-Secondary Certificate	36%	33%
High Scool Diploma or GED	24%	43%
No HSD or GED	17%	22%

Industrial Machinery Mechanics	Millwrights
Most Common Educational/Training Requirement:	
Long-term on-the-job training	Long-term on-the-job training
Job Zone Comparison	
3 - Job Zone Three: Medium Preparation Needed	3 - Job Zone Three: Medium Preparation Needed
Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.	Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.
Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.	Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.
Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.	Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.

Tasks

Industrial Machinery Mechanics	Millwrights
Core Tasks	Core Tasks

Generalized Work Activities:

- Repairing and Maintaining Mechanical Equipment - Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Handling and Moving Objects - Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Performing General Physical Activities - Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.

Specific Tasks

Occupation Specific Tasks:

- Analyze test results, machine error messages, and information obtained from operators in order to diagnose equipment problems.
- Clean, lubricate, and adjust parts, equipment, and machinery.
- Cut and weld metal to repair broken metal parts, fabricate new parts, and assemble new equipment.
- Demonstrate equipment functions and features to machine operators.
- Disassemble machinery and equipment to remove parts and make repairs.
- Enter codes and instructions to program computer-controlled machinery.
- Examine parts for defects such as breakage and excessive wear.
- Observe and test the operation of machinery and equipment in order to diagnose malfunctions, using voltmeters and other testing devices.
- Operate newly repaired machinery and equipment to verify the adequacy of repairs.
- Reassemble equipment after completion of inspections, testing, or repairs.
- Record parts and materials used, and order or requisition new parts and materials as necessary.
- Record repairs and maintenance performed.
- Repair and maintain the operating condition of industrial production and processing machinery and equipment.

Generalized Work Activities:

- Repairing and Maintaining Mechanical Equipment - Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.
- Operating Vehicles, Mechanized Devices, or Equipment - Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.
- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.

Specific Tasks

Occupation Specific Tasks:

- Align machines and equipment, using hoists, jacks, hand tools, squares, rules, micrometers, and plumb bobs.
- Assemble and install equipment, using hand tools and power tools.
- Assemble machines, and bolt, weld, rivet, or otherwise fasten them to foundation or other structures, using hand tools and power tools.
- Attach moving parts and subassemblies to basic assembly unit, using hand tools and power tools.
- Bolt parts, such as side and deck plates, jaw plates, and journals, to basic assembly unit.
- Connect power unit to machines or steam piping to equipment, and test unit to evaluate its mechanical operation.
- Construct foundation for machines, using hand tools and building materials such as wood, cement, and steel.
- Dismantle machinery and equipment for shipment to installation site, usually performing installation and maintenance work as part of team.
- Dismantle machines, using hammers, wrenches, crowbars, and other hand tools.
- Insert shims, adjust tension on nuts and bolts, or position parts, using hand tools and measuring instruments, to set specified clearances between moving and stationary parts.
- Install robot and modify its program, using teach pendant.
- Lay out mounting holes, using measuring instruments, and drill holes with power

- Repair and replace broken or malfunctioning components of machinery and equipment.
- Study blueprints and manufacturers' manuals to determine correct installation and operation of machinery.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- adjust or set mechanical controls or components
- adjust production equipment/machinery setup
- align or adjust clearances of mechanical components or parts
- analyze operation of malfunctioning electrical or electronic equipment
- apply cleaning solvents
- assemble and install pipe sections, fittings, or plumbing fixtures
- assemble, dismantle, or reassemble equipment or machinery
- bend tubing or conduit
- braze metal parts or components together
- calibrate or adjust electronic equipment or instruments to specification
- conduct performance testing
- conduct tests to locate mechanical system malfunction
- control HVAC equipment
- coordinate production maintenance activities
- cut, bend, or thread pipe for gas, air, hydraulic, or water lines
- determine installation, service, or repair needed
- develop maintenance schedules
- diagnose mechanical problems in machinery or equipment
- fabricate, assemble, or disassemble manufactured products by hand
- identify base metals for welding
- identify properties of metals for repair or fabrication activities
- inspect machinery or equipment to determine adjustments or repairs needed
- install electrical conduit or tubing
- install electrical fixtures or components
- install electronic equipment, components, or systems
- install electronic power, communication, control, or security equipment or systems
- install equipment or attachments on machinery or related structures
- install industrial machinery or related heavy equipment
- install or replace meters, regulators, or drill.
- Level bedplate and establish centerline, using straightedge, levels, and transit.
- Move machinery and equipment, using hoists, dollies, rollers, and trucks.
- Operate engine lathe to grind, file, and turn machine parts to dimensional specifications.
- Position steel beams to support bedplates of machines and equipment, using blueprints and schematic drawings, to determine work procedures.
- Repair and lubricate machines and equipment.
- Replace defective parts of machine or adjust clearances and alignment of moving parts.
- Shrink-fit bushings, sleeves, rings, liners, gears, and wheels to specified items, using portable gas heating equipment.
- Signal crane operator to lower basic assembly units to bedplate, and align unit to centerline.

Detailed Tasks

Detailed Work Activities:

- adhere to safety procedures
- adjust or set mechanical controls or components
- align or adjust clearances of mechanical components or parts
- assemble and install pipe sections, fittings, or plumbing fixtures
- assemble, dismantle, or reassemble equipment or machinery
- conduct performance testing
- conduct tests to locate mechanical system malfunction
- construct, erect, or repair wooden frameworks or structures
- cut, bend, or thread pipe for gas, air, hydraulic, or water lines
- determine installation, service, or repair needed
- determine project methods and procedures
- diagnose mechanical problems in machinery or equipment
- drive truck with capacity greater than 3 tons
- erect scaffold
- estimate time or cost for installation, repair, or construction projects
- fabricate sheet metal parts or items
- fabricate, assemble, or disassemble manufactured products by hand
- identify properties of metals for repair or fabrication activities
- inspect electrical installation for code

related measuring or control devices
- install water or sewer treatment plant equipment
- install/connect electrical equipment to power circuit
- lubricate machinery, equipment, or parts
- maintain or repair industrial or related equipment/machinery
- maintain or repair small engines
- maintain or repair work tools or equipment
- maintain repair records
- maintain specialized manufacturing or commercial equipment or machinery
- maintain welding machines or equipment
- move or fit heavy objects
- observe or listen to machinery or equipment operation to detect malfunctions
- obtain information from individuals
- operate crane in construction, manufacturing or repair setting
- operate hoist, winch, or hydraulic boom
- operate pneumatic test equipment
- order or purchase supplies, materials, or equipment
- overhaul industrial or construction machinery or equipment
- overhaul power-generating equipment or machinery
- perform detailed welding techniques
- perform hydraulic plumbing
- perform safety inspections in industrial, manufacturing or repair setting
- position, align, or level machines, equipment, or structures
- program computer numerical controlled machines
- read blueprints
- read schematics
- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- repair computer controlled manufacturing systems
- repair or adjust measuring or control devices
- repair or replace electrical wiring, circuits, fixtures, or equipment
- repair or replace malfunctioning or worn mechanical components
- repair plastics manufacturing equipment
- repair sheet metal products
- replace electronic components
- requisition stock, materials, supplies or equipment
- set up and operate variety of machine

conformance
- install electrical conduit or tubing
- install electrical fixtures or components
- install electronic equipment, components, or systems
- install equipment or attachments on machinery or related structures
- install generating plant equipment
- install industrial machinery or related heavy equipment
- install or replace meters, regulators, or related measuring or control devices
- install/connect electrical equipment to power circuit
- install/string electrical or electronic cable or wiring
- lay out machining, welding or precision assembly projects
- lubricate machinery, equipment, or parts
- maintain or repair industrial or related equipment/machinery
- maintain or repair work tools or equipment
- maintain welding machines or equipment
- move materials or goods between work areas
- move or fit heavy objects
- operate hoist, winch, or hydraulic boom
- operate lathes
- operate pneumatic test equipment
- perform detailed welding techniques
- perform hydraulic plumbing
- perform safety inspections in industrial, manufacturing or repair setting
- plan or organize work
- position, align, or level machines, equipment, or structures
- program computer numerical controlled machines
- read blueprints
- read schematics
- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- repair or replace malfunctioning or worn mechanical components
- set up and operate variety of machine tools
- set up computer numerical control machines
- signal directions or warnings to coworkers
- test electrical/electronic wiring, equipment, systems or fixtures
- test mechanical products or equipment
- understand service or repair manuals
- understand technical operating, service or repair manuals

tools
- set up computer numerical control machines
- solder electrical or electronic connections or components
- solder metal parts or components together
- test electrical/electronic wiring, equipment, systems or fixtures
- test electronic or electrical circuit connections
- test mechanical products or equipment
- understand service or repair manuals
- understand technical operating, service or repair manuals
- use 2-cycle engine technology
- use acetylene welding/cutting torch
- use arc welding equipment
- use basic plumbing techniques
- use braze-welding equipment
- use combination welding procedures
- use control or regulating devices to adjust or maintain industrial machinery
- use electrical or electronic test devices or equipment
- use electronic calibration devices
- use hand or power tools
- use high voltage apparatus
- use knowledge of metric system
- use knowledge of welding filler rod types
- use machine tools in installation, maintenance, or repair
- use pipe fitting equipment
- use pneumatic tools
- use pollution control techniques
- use precision measuring devices in mechanical repair work
- use pressure gauges
- use robotics systems technology
- use soldering equipment
- use tube bending equipment
- verify levelness or verticality, using level or plumb bob
- weld together metal parts, components, or structures

Technology - Examples

Computer aided design CAD software
- Computer aided design CAD software

Computer aided manufacturing CAM software
- Extranet Machine Tools Suite

Data base user interface and query software
- Maintenance planning and control software

Facilities management software

- use acetylene welding/cutting torch
- use arc welding equipment
- use basic carpentry techniques
- use basic plumbing techniques
- use combination welding procedures
- use concrete fabrication techniques
- use control or regulating devices to adjust or maintain industrial machinery
- use electrical or electronic test devices or equipment
- use hand or power tools
- use high voltage apparatus
- use knowledge of metric system
- use knowledge of welding filler rod types
- use machine tools in installation, maintenance, or repair
- use measuring devices in repairing industrial or heavy equipment
- use pipe fitting equipment
- use pneumatic tools
- use precision measuring devices in mechanical repair work
- use pressure gauges
- use robotics systems technology
- use soldering equipment
- verify levelness or verticality, using level or plumb bob
- weld together metal parts, components, or structures
- work as a team member

Technology - Examples

Computer aided design CAD software
- Autodesk AutoCAD software
- Computer aided design CAD software
- SolidWorks CAD software

Office suite software
- Microsoft Office

Tools - Examples

- Adjustable wrenches
- Air compressors
- Bandsaws
- Workshop bench vises
- Block and tackle equipment
- Oxyacetylene torches
- Box end wrenches

- Maintenance management software

Industrial control software

- BIT Corp ProMACS PLC
- KEYENCE PLC Ladder Logic

Office suite software

- Microsoft Office

Spreadsheet software

- Microsoft Excel

Word processing software

- Microsoft Word

Tools - Examples

- Pliers
- Wrenches
- Compressors
- Alignment tools
- Ammeters
- Stud drivers
- Bandsaws
- Vises
- Block and tackle equipment
- Acetylene torches
- Boring machines
- Broaching machines
- Calipers
- Reciprocating machinery combustion analyzers
- Airhammer chisels
- Combination wrenches
- Cutting dies
- Desktop computers
- Equipment rollers
- Side cutting pliers
- Angled feeler gauges
- Files
- Flow meters

- Keyway broaches
- Dial calipers
- Cold chisels
- Combination wrenches
- Dividers
- Depth gauges
- Diagonal cutters
- Dollies
- Cylinder hones
- Protective ear muffs
- Welding electrode holders
- Angled feeler gauges
- Flat files
- Forklifts
- Gage blocks
- Gas-powered generators
- Dial indicators
- Gear shapers
- Safety goggles
- Filler pumps
- Surface grinders
- Chipping hammers
- Ball peen hammers
- Hand clamps
- Bucket pumps
- Handtrucks
- Height gauges
- Allen wrenches
- Chain falls
- Gasket cutters
- Hydraulic press frames
- Hydraulic pumps
- Bearing heaters

- Forklifts
- Brazing equipment
- Shaping machines
- Grease guns
- Lapping wheels
- Brass hammers
- Hand pumps
- Gauges
- Allen wrenches
- Chain falls
- Impact wrenches
- Bearing heating ovens
- Jacks
- Ladders
- Laser measuring equipment
- Computer printers
- Engine lathes
- Transits
- Level gauges
- Channel lock pliers
- Magnetic retrievers
- Alignment scopes
- Rubber mallets
- Metal inert gas MIG welders
- Punches
- Programmable logic controllers PLC
- Inside micrometers
- Cutting machines
- Milling machines
- Multimeters
- Needlenose pliers
- Oscilloscopes

- Hydraulic jacks
- Ladders
- Turning lathes
- Transit levels
- Carpenters' levels
- Hoisting hooks
- Inspection mirrors
- Chain cutters
- Metal inert gas MIG welders
- Prick punches
- Teach pendants
- Depth micrometers
- End mills
- Needlenose pliers
- Nibblers
- Nut splitters
- Lubrication guns
- Personal computers
- Pipe cutters
- Pipe wrenches
- Planing machines
- Plasma welders
- Plumb bobs
- Pneumatic needle scalers
- Core drills
- Power grinders
- Belt sanders
- Cutoff saws
- Welding gloves
- Bevel protractors
- Crowbars
- Bearing pullers

- Personal computers
- Facing machines
- Pipe wrenches
- Screw pitch gauges
- Plasma cutters
- Staging platforms
- Plumb bobs
- Airpowered descaling drills
- Pneumatic hammers
- Airpowered descaling turbines
- Jigs
- Power drills
- Cylindrical grinders
- Sanders
- Power saws
- Steam cleaning equipment
- Pressure gauges
- Hydrostatic testers
- Optical measuring equipment
- Pinchbars
- Hydraulic pullers
- Putty knives
- Ratchet sets
- Reamers
- Burnishing wheels
- Riveting machines
- Rulers
- Welding lenses
- Handsaws
- Scissor lifts
- Scrapers
- Phillips head screwdrivers

- Center punches
- Putty knives
- Pyrometers
- Scrapers
- Reamers
- Respirators
- Retaining ring pliers
- Rivet guns
- Shrink rules
- Scaffolding
- Spiral screw extractors
- Scribers
- Honing stones
- Scissors
- Material-hoisting slings
- Socket sets
- Soldering guns
- Spanner wrenches
- Chain wrenches
- Stroboscopes
- Combination squares
- Straightedges
- Strap wrenches
- Tachometers
- Tap extractors
- Measuring tapes
- Dies
- Alignment telescopes
- Layout templates
- Tension indicators
- Snap gauges
- Thread gauges

- Rigging
- Socket sets
- Soldering irons
- Cylindrical procedures squares
- Straightedges
- Bearing bridge gauges
- Vacuum lifts
- Strobe tachometers
- Tape measures
- Taps
- Space gauges
- Pipe threaders
- Aviation snips
- Emery wheels
- Tungsten inert gas TIG welding equipment
- Radial drills
- Utility knives
- Vacuum gauges
- Vibration analyzers
- Voltmeters
- Steel wedges
- Arc welders
- Welding shields
- Robotic teach pendants
- Tip dressing machines
- Electric welding equipment
- Electric rotary wire brushes
- Wire cutters
- Cranes
- Drill presses

- Pipe threading machines
- Tin snips
- Torque multipliers
- Tungsten inert gas TIG welding equipment
- Ultrasonic thickness detectors
- Utility knives
- Vibration indicators
- Arc welders
- Welding shields
- Spot welding equipment
- Wire brushes
- Cable cutters
- Hydraulic cranes
- Arbor presses

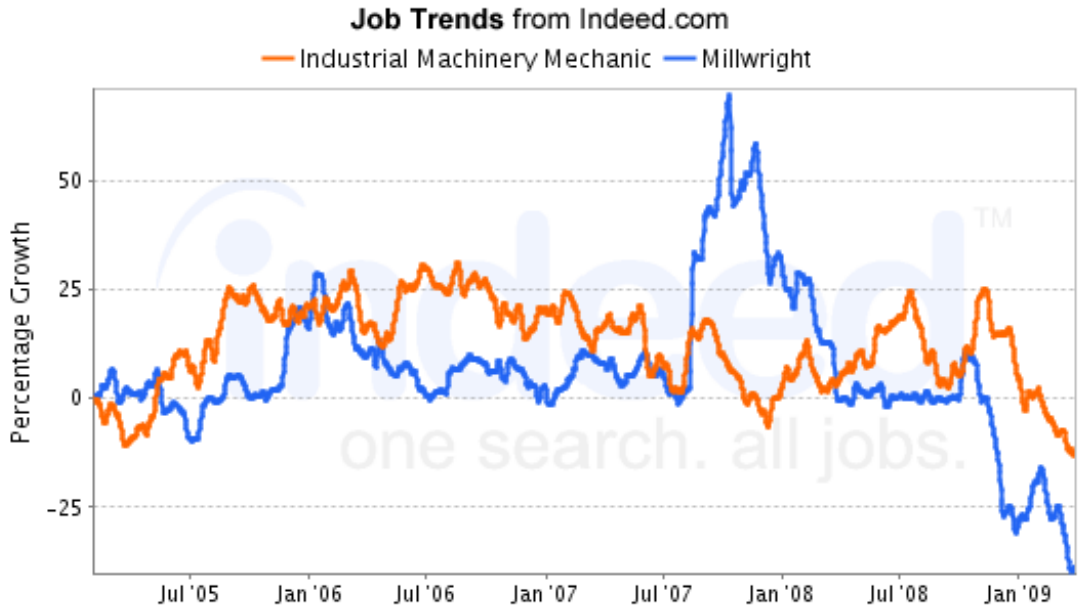
Labor Market Comparison

Description	Industrial Machinery Mechanics	Millwrights	Difference
Median Wage	$ 39,370	$ 41,280	$ 1,910
10th Percentile Wage	$ 28,150	$ 30,940	$ 2,790
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	$ 48,040	$ 49,110	$ 1,070
90th Percentile Wage	$ 56,740	$ 54,780	$(1,960)
Mean Wage	$ 40,830	$ 41,500	$ 670
Total Employment - 2007	990	830	-160
Employment Base - 2006	1,021	883	-138
Projected Employment - 2016	1,096	774	-322
Projected Job Growth - 2006-2016	7.4 %	-12.3 %	-19.7 %
Projected Annual Openings - 2006-2016	25	11	-14

National Job Posting Trends

Trend for Industrial Machinery Mechanics

Trend for Millwrights



Data from Indeed

Recommended Programs

Industrial Machinery Main. and Repairer

Industrial Mechanics and Maintenance Technology. A program that prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, engines and motors, pneumatic tools, conveyor systems, production machinery, marine deck machinery, and steam propulsion, refinery, and pipeline-distribution systems.

Institution	Address	City	URL
Kennebec Valley Community College	92 Western Ave	Fairfield	www.kvcc.me.edu

Heavy/Industrial Equipment Maintenance Technologies, Other

Heavy/Industrial Equipment Maintenance Technologies, Other. Any instructional program in industrial equipment maintenance and repair not listed above.

No schools available for the program

Maine Statewide Promotion Opportunities for Industrial Machinery Mechanics

O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
49-9041.00	Industrial Machinery Mechanics	100	3	990	$39,370.00	$0.00	7%	25
49-9044.00	Millwrights	92	3	830	$41,280.00	$1,910.00	-12%	11
51-4111.00	Tool and Die Makers	88	3	160	$51,670.00	$12,300.00	-11%	2
51-4041.00	Machinists	87	3	1,860	$41,560.00	$2,190.00	4%	35
49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	87	3	440	$49,450.00	$10,080.00	-19%	15
51-4192.00	Lay-Out Workers, Metal and Plastic	86	2	180	$43,870.00	$4,500.00	-24%	3
51-4011.00	Computer-Controlled Machine Tool Operators, Metal and Plastic	86	2	720	$40,490.00	$1,120.00	6%	12
47-4021.00	Elevator Installers and Repairers	85	4	0	$50,960.00	$11,590.00	0%	0
49-9012.00	Control and Valve Installers and Repairers, Except Mechanical Door	85	3	170	$47,860.00	$8,490.00	-9%	3
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	85	5	20	$60,790.00	$21,420.00	5%	1
49-3011.00	Aircraft Mechanics and Service Technicians	84	3	210	$44,280.00	$4,910.00	-2%	2
53-6051.07	Transportation Vehicle, Equipment and Systems Inspectors, Except Aviation	83	3	60	$42,890.00	$3,520.00	5%	2
47-2111.00	Electricians	82	3	2,910	$43,650.00	$4,280.00	1%	89
17-3023.01	Electronics Engineering Technicians	81	3	430	$45,180.00	$5,810.00	-20%	9

49-9061.00	Camera and Photographic Equipment Repairers	81	3	0	$44,660.00	$5,290.00	0%	0

Top Industries for Millwrights

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Other building equipment contractors	238290	20.13%	11,049	12,977	17.45%
Nonresidential building construction	236200	8.45%	4,639	5,633	21.42%
Pulp, paper, and paperboard mills	322100	5.62%	3,084	2,318	-24.83%
Iron and steel mills and ferroalloy manufacturing	331100	4.25%	2,335	1,703	-27.05%
Plumbing, heating, and air-conditioning contractors	238220	3.94%	2,160	2,644	22.38%
Sawmills and wood preservation	321100	3.80%	2,088	1,814	-13.12%
Self-employed workers, primary job	000601	3.19%	1,752	2,023	15.45%
Veneer, plywood, and engineered wood product manufacturing	321200	2.94%	1,615	1,905	18.01%
Foundries	331500	2.50%	1,371	1,077	-21.42%
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	811300	2.19%	1,204	1,381	14.68%
Employment services	561300	1.22%	671	921	37.15%
Nonferrous metal (except aluminum) production and processing	331400	1.15%	633	480	-24.19%
Other specialty trade contractors	238900	1.14%	627	751	19.77%
Other heavy and civil engineering construction	237900	0.88%	486	565	16.39%
Resin, synthetic rubber, and artificial synthetic fibers and filaments manufacturing	325200	0.85%	466	406	-13.01%

Top Industries for Industrial Machinery Mechanics

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Commercial and industrial machinery and equipment (except automotive and electronic) repair and maintenance	811300	7.91%	20,611	25,083	21.70%
Motor vehicle parts manufacturing	336300	3.70%	9,644	8,829	-8.44%
Plastics product manufacturing	326100	3.58%	9,327	11,369	21.90%
Self-employed workers, primary job	000601	2.49%	6,497	7,960	22.52%
Electric power generation, transmission and distribution	221100	2.40%	6,265	6,626	5.77%
Converted paper product manufacturing	322200	2.30%	5,998	5,789	-3.49%
Pulp, paper, and paperboard mills	322100	2.25%	5,865	4,678	-20.23%

Animal slaughtering and processing	311600	2.25%	5,866	7,700	31.25%
Local government, excluding education and hospitals	939300	2.03%	5,296	6,841	29.19%
Fruit and vegetable preserving and specialty food manufacturing	311400	2.02%	5,259	5,484	4.27%
Basic chemical manufacturing	325100	1.87%	4,881	4,734	-3.02%
Federal government, excluding postal service	919999	1.81%	4,706	5,116	8.71%
Petroleum and coal products manufacturing	324100	1.46%	3,797	3,296	-13.18%
Semiconductor and other electronic component manufacturing	334400	1.39%	3,633	3,652	0.52%
Bakeries and tortilla manufacturing	311800	1.36%	3,536	4,154	17.47%

